

IN THE CLAIMS

1. (Currently Amended) A catheter adapted for deployment in a body vessel to occlude flow and remove material located distal to the site of occlusion, comprising:

an outer elongated hollow shaft configured for introduction into a blood vessel,

an expandable occluder ~~at or near the~~ proximate to a distal end of the outer shaft which substantially isolates a region within the vessel that is distal of the occluder from a region proximal of the immediately external to the distal portion of the outer shaft from the region within the outer shaft and within the vessel distal to the occluder,

an efflux port in fluid communication with ~~the lumen of the~~ an outer shaft lumen that provides for the removal of fluid and material from the region distal of the occluder, within the vessel and distal to the outer shaft,

Q1 an inner elongated and hollow shaft configured ~~that is able to slide longitudinally within the~~ outer shaft and ~~is terminated distally with~~ having one or more openings proximate to a distal end that allow the fluid contents of an inner shaft lumen to the inner shaft to exit its lumen and enter the vessel in the region distal of to the occluder and in a flow pattern of flow determined in part by the arrangement of the one or more openings,

an influx port in fluid communication with the ~~lumen of the~~ inner shaft lumen, and

a treatment port that provides access to the lumen of the outer shaft.

2. (Currently Amended) The device of claim 1, wherein the expandable occluder is inflatable and is connected to an inflation lumen incorporated into a wall of the outer ~~elongated~~ shaft.

3. (Currently Amended) The device of claim 1, wherein the expandable occluder is

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cancel inflatable and is connected to an inflation lumen extending through a separate, hollow elongated shaft that runs parallel to the outer ~~elongated~~ shaft.

4 (Cancelled)

5. (Currently Amended) The device of claim 1, wherein the inner shaft is configured to allow passage of a guidewire through the inner shaft lumen and that extends through an opening in the distal wall of the inner shaft, for the purposes of aiding in the delivery of the catheter and treatment or diagnostic means to the site of interest within a blood vessel.

6. (Original) The device of claim 1, wherein the expandable occluder is self-expanding.

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7. (Currently Amended) The device of claim 1, wherein the expandable occluder comprises open-cell foam surrounded by an airtight sheath and the open-cell foam is in fluid communication with an inflation lumen incorporated into the wall of the outer ~~elongated~~ shaft.

8. (Currently Amended) The device of claim 1, wherein the expandable occluder comprises open-cell foam surrounded by an airtight sheath and the open-cell foam is in fluid communication with an inflation lumen in a separate, hollow elongated shaft that runs parallel to the outer ~~elongated~~ shaft.

9. (Original) The device of claim 1, further comprising means for varying rates of fluid flow through the influx port and/or the outflux port over time in a manually controlled or programmed fashion.

10. (Original) The device of claim 1, further comprising means for inducing fluid flow within the vessel at or near the treatment site at physiologically relevant flow levels.

11. (Currently Amended) The device of claim 1, further comprising a stent delivery

catheter introduced through the treatment port and the ~~lumen of the outer shaft~~ lumen.

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cancel 12. (Currently Amended) The device of claim 1, further comprising an angioplasty catheter introduced through the treatment port and the ~~lumen of the outer shaft~~ lumen.

13. (Currently Amended) The device of claim 1, further comprising a distal embolic protection device introduced through the treatment port and the ~~lumen of the outer shaft~~ lumen.

14. (Cancelled)

15. (Currently Amended) The device of claim 1, wherein the ~~lumen of the inner shaft~~ lumen is sized and configured for passage of a guidewire.

A3 16. (Currently Amended) The device of claim 1, wherein the ~~lumen of the inner shaft~~ lumen is terminated on a distal end by a flexible seal configured to allow passage of a guidewire and to form a fluid tight seal around the guidewire.

17. (Original) The device of claim 1, further comprising a guidewire fixedly attached to a distal end of the inner shaft.

18-33. (Cancelled)

34. (Currently Amended) A catheter adapted for deployment in a body vessel to occlude flow and assist in the imaging of vessels distal to the occlusion, comprising:

A4 an outer elongated and hollow shaft configured for introduction into a blood vessel,
an expandable occluder ~~at or near the proximate to a distal end of the outer shaft which~~
substantially isolates the region within the vessel that is distal of the occluder from a region proximal
of the immediately external to the distal portion of the outer shaft from the region within the outer
shaft and within the vessel distal to the occluder,

an efflux port in fluid communication with ~~an a lumen of the outer shaft~~ lumen that provides

for the removal of fluid and material from the region distal of the occluder, ~~within the vessel and distal to the outer shaft,~~

an inner elongated and hollow shaft configured ~~that is able~~ to slide longitudinally within the outer shaft having ~~and is terminated distally with~~ one or more openings proximate to a distal end that allow fluid ~~flowing~~ within an lumen of the inner shaft lumen to ~~exit the inner shaft and~~ enter the vessel in the region distal of ~~to~~ the occluder in a flow pattern of ~~flow~~ determined ~~in part~~ by the arrangement of the one or more openings, and

an influx port in fluid communication with the ~~lumen of the inner shaft~~ lumen.

35 (Currently Amended) The device of claim 34, further comprising:

a treatment port that provides access to the outer shaft ~~lumen of the outer shaft~~.

36. (Original) The device of claim 34, wherein the at least one opening comprises a multiplicity of openings, the openings being angled in a proximal direction with respect to a longitudinal axis of the inner shaft.

37. (Currently Amended) The device of claim 34, wherein the expandable occluder is inflatable and is connected to an inflation lumen incorporated into a wall of the outer ~~elongated~~ shaft.

38. (Original) The device of claim 34, wherein the expandable occluder is inflatable and is connected to an inflation lumen extending through a separate, hollow elongated shaft that runs parallel to the outer shaft.

✓ 39. (Cancelled).

40. (Currently Amended) The device of claim 34, further comprising a guidewire that extends through the ~~lumen of the inner shaft~~ lumen and through an opening in a distal wall of the

inner shaft.

41. (Original) The device of claim 34, wherein the expandable occiuder is self-expanding.

42. (Currently Amended) The device of claim 34, wherein the expandable occluder comprises open-cell foam surrounded by an airtight sheath and the open-cell foam is in fluid communication with an inflation lumen incorporated into the wall of the outer ~~elongated~~ shaft.

43. (Currently Amended) The device of claim 34, wherein the expandable occluder comprises open-cell foam surrounded by an airtight sheath and the open-cell foam is in fluid communication with an inflation lumen in a separate, hollow elongated shaft that runs parallel to the outer ~~elongated~~ shaft.

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Cancel 44. (Original) The device of claim 34, further comprising means for varying rates of fluid flow through the influx port and/or the outflux port over time in a manually controlled or programmed fashion.

45. (Original) The device of claim 34, further comprising a source of radiopaque contrast agent in fluid connection with the ~~lumen of the inner shaft~~ lumen.

✓ 46-66. (Cancelled)